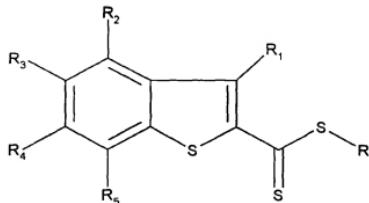


IMPROVED UTILIZATION OF PHOSPHORUS PENTASULFIDE IN THIONYLATIONS USING PHASE TRANSFER CATALYSIS

ABSTRACT OF THE DISCLOSURE

5 A method is disclosed for the preparation of benzo[b]thiophenecarbodithioic esters of the formula:

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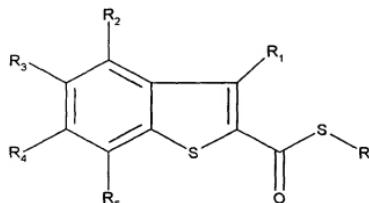
wherein R is alkyl, R₁ is hydrogen, halogen, or alkyl, R₂, R₃, R₄, and R₅ are independently

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selected from the group consisting of hydrogen, halogen, alkyl, alkoxy, alkylthio, trifluoromethyl, cyano, and aryl,

wherein said method comprises reacting an equivalent of an S-thiol ester of the formula:

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with one-third of an equivalent of P₂S₅, 2 equivalents of at least one alkali metal carbonate, about 2.5 mole percent of a phase transfer catalyst, and a catalytic amount of water in hot toluene.